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10/565,325	12/08/2006	Clemens Ottermann	2133.122USU	2196

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EXAMINER
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GRAMLING, SEAN P

ART UNIT	PAPER NUMBER
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2875

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12/11/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/565,325	<b>Applicant(s)</b> OTTERMANN ET AL.	
	<b>Examiner</b> SEAN P. GRAMLING	<b>Art Unit</b> 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 33-46, 49-61, 65, 66 and 68-74 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 33-46, 49-61, 65, 66 and 68-74 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Amendment***

Acknowledgment is made of Amendment filed July 15, 2009. Claims 33, 43, 50, 54, 68, 71 and 73 are amended. Claim 74 is new. Claims 33-46, 49-61, 65-66 and 68-74 are pending.

### ***Claim Objections***

**Claim 33** is objected to because of the following informalities: In line 2, Applicant recites "the light-guiding device comprising", and again recites "the light-guiding device comprising" in lines 5-6. For purposes of examination, Examiner reads the second "the light-guiding device comprising" as "the light-guiding device *further* comprising". Appropriate correction is required. Additionally, in lines 6-8, Applicant recites "the light-guiding device comprising a light guiding plate and being coupled with the aid of an edge surface". It is unclear whether "the light-guiding device" or the "light guiding plate" is being "coupled", and it is unclear to what object "the light-guiding device" or the "light guiding plate" is being "coupled" to. Moreover, it is unclear what object the "edge surface" is on. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 33-42, 45-46, 52, 58-61, 68-71 and 74** are rejected under 35 U.S.C. 103 (a) as being unpatentable over *Budd et al* (US 2001/0030320).
2. Regarding claim 33, Budd discloses a luminous element with a light-guiding device in which light is guided by reflection, the light-guiding device comprising at least one light-scattering area (body of light guiding plate 32) to which light-scattering structures can be applied, and at least one light entry surface (side surface of light guiding plate 32), and at least one OLED 10 coupled to the light entry surface, the light-guiding device comprising a light guiding plate 32 and a glass substrate 14 being plate-shaped and being coupled with the aid of an edge surface to the light-guiding device, wherein the at least one OLED is of strip-shaped form and includes contact surfaces 18, 22 that extend along the longitudinal direction of the OLED, the contact surfaces forming busbars (see Figures 1a, 1b, and 2, and paragraphs [0025], [0026], and [0041]). Budd does not specifically teach that the OLEDs 10 and the busbars be directly arranged on the light entry surface. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to directly arrange the OLEDs and the busbars on the light entry surface in order to maximize the intensity and efficiency of the lighting device, and since it has been held that rearranging parts of an invention involves only routine skill in the art (*In re Japikse*, 86 USPQ 70).
3. Regarding claim 34, the light-scattering area in Budd comprises a light-scattering structure (see Figure 2 and paragraph [0041]).

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4. Regarding claim 35, the light-guiding device in Budd comprises transparent material 14 (see paragraph [0025] and Figures 1a and 2).
5. Regarding claim 36, the transparent material 14 in Budd is comprised of glass (see paragraph [0025]).
6. Regarding claim 37, the light entry surface in Budd is arranged at an edge surface of the light guiding plate 32 (see Figure 2).
7. Regarding claim 38, the light entry surface in Budd adjoins an edge surface of the plate 32 (see Figure 2).
8. Regarding claim 39, the light guiding device in Budd has an elongated shape (see Figure 2).
9. Regarding claim 40, the light entry surface in Budd comprises at least one end face (see Figure 2).
10. Regarding claim 41, the light entry surface in Budd comprises at least one face at one of the ends of the light-guiding plate (see Figure 2).
11. Regarding claim 42, the light entry surface in Budd is arranged on at least one side of the light guiding plate (see Figure 2).
12. Regarding claim 45, the light entry area in Budd comprises the light entry surface (see Figure 2).
13. Regarding claim 46, the light entry area in Budd comprises the OLED 10 (see Figure 2).
14. Regarding claim 52, the light-scattering structure in Budd is arranged in the interior of the light-guiding device (see Figure 2).

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15. Regarding claim 58, the luminous element in Budd is characterized by a number of OLEDs 10 coupled to light entry surfaces (see Figure 3).

16. Regarding claim 59, the luminous element in Budd is characterized in that the several OLEDs 10 emit light of different colors (see Figure 3).

17. Regarding claim 60, Budd discloses an OLED that emits white light (see paragraph [0006]).

18. Regarding claim 61, the light-scattering area in Budd has a light exit surface (upper surface of light guiding device 32) which is larger than the light entry surface of the light guiding device 32 (see Figure 2).

19. Regarding claim 68, Budd discloses a luminous element with a light-guiding device in which light is guided by reflection, the light-guiding device comprising a glass substrate 14 or 32 having a light entry surface (light entry surface of light guide 32 or light entry surface of glass plate 14); an OLED 10 having a transparent electrode layer 16 coupled to the light entry surface, a second electrode layer 24 and one or more electroluminescent layers 20 arranged between the transparent and second electrode layers; a first contact surface 18 along a longitudinal direction of the OLED, the first contact surface 18 in electrical contact with the transparent electrode layer 16; and a second contact surface 22 in electrical contact with the second electrode layer 24, the first and second contact surface in electrical contact with the second electrode layer, the second contact surfaces serving as busbars for supporting the transparent and second electrode layers 16, 24 (see Figure 1a and paragraphs [0025]-[0027]). Budd does not specifically teach that the OLEDs 10 be directly arranged on the light entry surface or

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that the busbars be directly arranged on glass substrate 14 or 32. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to directly arrange the OLEDs and the busbars on the light entry surface and glass substrate 14 or 32, respectively, in order to maximize the intensity and efficiency of the lighting device, and since it has been held that rearranging parts of an invention involves only routine skill in the art (*In re Japikse*, 86 USPQ 70).

20. Regarding claim 69, the transparent electrode layer 16 in Budd comprises an indium tin oxide layer (see paragraph [0025]).

21. Regarding claim 70, the transparent electrode layer 16 in Budd is deposited directly on the light entry surface of glass plate 14 (see Figure 1a).

22. Regarding claim 71, the transparent electrode layer 16 in Budd is applied to a glass substrate 14, the glass substrate being coupled to the light entry surface (see Figures 1a and 2).

23. Regarding claim 74, Budd discloses a luminous element with a light-guiding device in which light is guided by reflection, the light-guiding device comprising a glass substrate 32 having a light entry surface (side surface receiving light from OLEDs 10), a first lateral surface (top surface of glass substrate 32) and second lateral surface (bottom surface of glass substrate 32); an OLED 10 having a transparent electrode layer 16 coupled to the light entry surface, a second electrode layer 24 and one or more electroluminescent layers 20 arranged between the transparent and second electrode layers; a first contact surface 18 along a longitudinal direction of the OLED, the first contact surface 18 in electrical contact with the transparent electrode layer 16; and a

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second contact surface 22 in electrical contact with the second electrode layer 24, the first and second contact surface in electrical contact with the second electrode layer, the second contact surfaces comprising reflective surfaces (see Figure 1a and paragraphs [0025]-[0027]). Budd does not specifically teach that the first and second contact surfaces be arranged on the lateral surfaces and the light entry surface. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to directly arrange the first and second contact surface on the lateral surfaces and the light entry surface of the glass substrate 14 or 32 in order to maximize the intensity and efficiency of the lighting device, and since it has been held that rearranging parts of an invention involves only routine skill in the art (*In re Japikse*, 86 USPQ 70).

24. **Claims 33-46, 49-61, 65-66 and 68-73** are rejected under 35 U.S.C. 103 (a) as being unpatentable over *Duggal et al* (US 6,777,871).

25. Regarding claim 33, Duggal discloses a luminous element with a light-guiding device in which light is guided by reflection, the light-guiding device (3 or 8) comprising at least one light-scattering area (body of devices 3 or 8) to which light-scattering structures can be applied, and at least one light entry surface (light entry surface of element 3 or 8), and at least one OLED 1 is coupled to the light entry surface, the light-guiding device comprising a light guiding plate (3 or 8) and a glass substrate 5 being plate-shaped and being coupled with the aid of an edge surface to the light-guiding device, wherein the at least one OLED is of strip-shaped form and includes contact surfaces 162, 164 that extend along the longitudinal direction of the OLED, the contact surfaces forming busbars (see Figures 1-4 and 9-10 and column 5, line 51 through



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column 8, line 55 and column 12, line 55 through column 13, line 64). Duggal does not specifically teach that the OLEDs and the busbars be directly arranged on the light entry surface. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to directly arrange the OLEDs and the busbars on the light entry surface in order to maximize the intensity and efficiency of the lighting device, and since it has been held that rearranging parts of an invention involves only routine skill in the art (*In re Japikse*, 86 USPQ 70).

26. Regarding claim 34, the light-scattering area in Duggal comprises a light-scattering structure (see Figures 1-3).

27. Regarding claim 35, the light-guiding device 3 or 8 in Duggal comprises a transparent material (see column 5, line 55).

28. Regarding claim 36, the transparent material in Duggal comprises one of the group consisting of glass and coated glass and laminate glass and glass plastic laminate and a fluid (see column 6, lines 14-30).

29. Regarding claim 37, the light entry surface in Duggal is arranged at an edge surface of the light guiding plate 3, 8 (see Figures 1-3).

30. Regarding claim 38, the light entry surface in Duggal adjoins an edge surface of the plate 3, 8 (see Figures 1-3).

31. Regarding claim 39, the light-guiding device in Duggal has an elongated prismatic shape (see Figures 1-2).

32. Regarding claim 40, the light entry surface in Duggal comprises at least one end face (see Figures 1-3).

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33. Regarding claim 41, the light entry surface in Duggal comprises at least one face at one of the ends of the light-guiding device (see Figures 1-3).

34. Regarding claim 42, the light entry surface in Duggal is arranged on at least one side of the light guiding plate (see Figures 1-3).

35. Regarding claim 43, Duggal discloses a flexible substrate 160 of the OLED (see Figure 12 and column 16, lines 40-63).

36. Regarding claim 44, the substrate 160 in Duggal comprises one of the group consisting of a polymer, extremely thin glass and polymer (see column 16, lines 40-63).

37. Regarding claim 45, the light entry surface in Duggal comprises a light entry area (see Figures 1-3).

38. Regarding claim 46, the light entry area in Duggal comprises one of the group consisting of the OLED 1, at least one specular reflective surface and an optical grating (see Figures 1-3).

39. Regarding claim 49, the OLED in Duggal is coupled to the light-guiding device by a transparent bonded joint matched from refractive power (see column 6, lines 31-40).

40. Regarding claim 50, Duggal teaches that the substrate 160 for the OLED's and the accompanying components (such as the light entry input surface of light guide 145) may be curved (see Figure 11 and column 17, lines 43-60). Accordingly, Duggal teaches that the light entry surface can be arranged obliquely to the light guidance direction.

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41. Regarding claim 51, Duggal teaches that the substrate 160 for the OLED's and the accompanying components (such as the light entry input surface of light guide 145) may be curved (see Figure 11 and column 17, lines 43-60).

42. Regarding claim 52, the light-scattering structure in Duggal is arranged in the interior of the light-guiding device (see Figure 3).

43. Regarding claim 53, the light-scattering structure in Duggal comprises a roughened surface (see Figures 1-2).

44. Regarding claim 54, the roughness in Duggal increases along the light guidance direction (see Figures 1-2).

45. Regarding claim 55, the light-scattering structure in Duggal can be colored (see column 15, lines 47-51).

46. Regarding claim 56, the light-scattering structure in Duggal comprises one of a raised pyramid structure and a recessed pyramid structure and a convex lens and a concave lens and a raised prism and a recessed prism and a convex cylindrical lens and a concave cylindrical lens (see Figures 1-2).

47. Regarding claim 57, the light-scattering structure in Duggal comprises optical grating (see Figures 1-2).

48. Regarding claim 58, the luminous element in Duggal comprises a number of OLEDs coupled to the light entry surface (see Figure 12).

49. Regarding claim 59, the number of OLEDs in Duggal can emit different colors (column 14, lines 61-65).

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50. Regarding claim 60, the OLED in Duggal emits white light (see column 14, lines 32-36).

51. Regarding claim 61, the light-scattering area in Duggal has a light exit surface that is larger (in surface area) than the light entry surface of the light-guiding device (see Figures 1-2).

52. Regarding claim 65, the light-guiding device in Duggal has an annularly bent shape (see Figures 1-2 and the light-scattering area on the output surface).

53. Regarding claim 66, the light-guiding device in Duggal has a prismatic form (see Figures 1-2).

54. Regarding claim 68, Duggal discloses a luminous element with a light-guiding device in which light is guided by reflection, the light-guiding device comprising a glass substrate 3 or 8 having a light entry surface (light entry surface of element 3 or 8 or 145 or light entry surface of glass substrate 5 or 125); an OLED 1 having a transparent electrode layer 130 coupled to the light entry surface, a second electrode layer 120 and one or more electroluminescent layers 110 arranged between the transparent and second electrode layers; a first contact surface 162 along a longitudinal direction of the OLED, the first contact surface in electrical contact with the transparent electrode layer 130; and a second contact surface 164 in electrical contact with the second electrode layer 120, the second contact surface in electrical contact with the second electrode layer, the first and second contact surfaces serving as busbars for supporting the transparent and second electrode layers (see Figures 1-4 and 9-10 and column 5, line 51 through column 8, line 55 and column 12, line 55 through column 13, line 64).

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Duggal does not specifically teach that the OLEDs be directly arranged on the light entry surface or that the busbars be directly arranged on the glass substrate 3 or 8. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to directly arrange the OLEDs and the busbars on the light entry surface and glass substrate 3 or 8, respectively, in order to maximize the intensity and efficiency of the lighting device, and since it has been held that rearranging parts of an invention involves only routine skill in the art (*In re Japikse*, 86 USPQ 70).

55. Regarding claim 69, the transparent electrode layer 130 in Duggal comprises an indium tin oxide layer (see column 8, lines 34-38).

56. Regarding claim 70, the transparent electrode layer 130 in Duggal is deposited directly on the light entry surface of substrate 125 (see Figures 4 and 9).

57. Regarding claim 71, the transparent electrode layer 130 in Duggal is applied to a glass substrate 125, the glass substrate being coupled to the light entry surface (see Figures 1 and 3).

58. Regarding claim 72, the first and second contact surface 162, 164 in Duggal each comprises a portion extending on opposite lateral surfaces on the light-entry surface of substrate 125 (see Figures 9-10 and column 13, lines 24-64).

59. Regarding claim 73, a portion of the first and second contact surfaces 162, 164 in Duggal are reflective surfaces (see Figure 9 and column 16, lines 14-21).

***Response to Arguments***

60. Applicant's arguments filed July 15, 2009 with respect to the rejections in the previous Office Action have been considered but are moot in view of the new grounds of rejection which were necessitated by Applicant's amendment.

***Conclusion***

61. Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SEAN P. GRAMLING whose telephone number is (571)272-9082. The examiner can normally be reached on MONDAY-FRIDAY 7:30 AM-5:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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